

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. Of: SAKUMA et al.

Serial No.: 10/074,961

Filed: February 13, 2002

For: CIRCULAR-SHAPED METAL STRUCTURE ...

Group: 2852

Examiner: Robert B. Beatty

DOCKET: AMANO A 275 DIV

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450DECLARATION UNDER 37 CFR 1.132

Dear Sir:

The undersigned, being the named inventors of the above identified application, declare and state as follows:

(1) We have read and reviewed the Examiner's rejection mailed April 8, 2003, in this application. As we understand, the Examiner has cited Hori et al, U.S. Patent No. 6,413,689 to anticipate or render obvious our claimed invention.

(2) Hori et al describes a product fabricated by electroforming, more specifically, electroplating. Our claimed invention is directed to a product that is spinning formed. Electro working and spinning working are fundamentally different processes, and products formed thereby are fundamentally structurally different. In order to demonstrate the difference, we conducted the following experiments:

- (3) We fabricated a first sleeve by spinning working in accordance with the present invention. The sleeve had a thickness of 0.06 mm and an outer diameter of 60 mm. We formed a second sleeve having identical outer diameter and thickness by electroplating following the process described in U.S. Patent No. 6,413,689 to Hori et al.
- (4) We then subjected the first and second sleeves to a fatigue tests by repeatedly applying a load to the first and second sleeves, and observing when the sleeves broke. The results are shown in the attached graph. 1
- (5) As can be seen in the attached graph, the second sleeve, i.e., made by electroplating, broke after about 1×10^5 cycles. In contrast, the first sleeve made by spinning working in accordance with the claimed invention failed to break even after 1×10^6 cycles.
- (6) The above comparative tests show that a hollow metal structure fabricated by spinning working in accordance with our claimed invention has a much resistance to fatigue breakage than a product fabricated by electroplating.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that with full false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

By: _____ Date: _____
Masaru Sakuma

By: Yoji Ito Date: July 22, 2003
Yoji Ito

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By: Masaru Sakuma Date: July 22, 2003
Masaru Sakuma

By: _____ Date: _____
Youji Ito